

ATTACHMENT B
Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-18. (Canceled)

19. (Currently Amended) A method of transforming a predetermined visual object category into a computer model comprising parameters which define said visual object category, said method comprising:

identifying one or more predetermined feature types within each image, or a region thereof, of a plurality of images of a training dataset;
classifying said features in terms of descriptive variables defining one or more characteristics of said features and a spatial relationship there between; and
estimating model parameters by identifying a set of parameters that best define said descriptive variables from all of said images in said training-database dataset, to thereby generate the computer model comprising said the model parameters.

20. (Previously Presented) The method according to claim 19, further comprising storing said model.

21. (Currently Amended) The method according to claim 19, wherein each feature is represented by one or more parameters, which parameters include at least one of

appearance or geometry, ~~its~~ a scale of the feature relative to the model, and ~~its~~ occlusion probability of the feature.

22. (Previously Presented) The method according to claim 21, wherein said parameters are modeled by probability density functions.
23. (Previously Presented) The method according to claim 22, wherein said probability density functions comprise Gaussian probability functions.
24. (Previously Presented) The method according to claim 19, further comprising selecting said training dataset from a larger set of images.
25. (Previously Presented) The method according to claim 19, wherein at least two different models are created in respect of said training dataset.
26. (Previously Presented) The method according to claim 25, further including selecting one of said at least two models as said visual object category model.
27. (Previously Presented) The method according to claim 26, wherein said selecting step is performed by calculating a differential ranking measure in respect of each model, and selecting the model having the largest differential ranking measure.

28. (Currently Amended) The method for determining the relevance of a set of images in an electronic database relative to a specified visual object category, the method comprising:

identifying one or more predetermined feature types within each image, or a region thereof, of a plurality of images of ~~a~~ an electronic training dataset;

classifying said features in terms of descriptive variables defining one or more characteristics of said features and a spatial relationship there between;

estimating model parameters by identifying a set of parameters that best define said descriptive variables from all of said images in said training database, to thereby generate a computer model comprising said the model parameters;

calculating a likelihood value relating to each image based on its correspondence with said model by comparing said set of images with said computer model; and

ranking said images in order of said respective likelihood values, to thereby determine the relevance of a set of images relative to a specified visual object category.

29. (Previously Presented) The method according to claim 28, wherein said set of images is retrieved by means of a database based on said specified visual object category.

30. (Previously Presented) The method according to claim 29, wherein said specified visual object category is input as a word or set of words describing said visual object category.

31. (Previously Presented) The method according to claim 28, wherein the step of comparing an image with said model includes identifying features of the image and estimating the probability densities of said parameters of those features to determine a maximum likelihood description of said image.
32. (Previously Presented) The method according to claim 28, further comprising comparing a set of images retrieved from a database with said model and calculating a likelihood value relating to each image based on its correspondence with said model.
33. (Previously Presented) The method according to claim 32, further comprising at least one of ranking said images in order of said respective likelihood values; or retrieving further images corresponding to said specified visual object category.
34. (Previously Presented) The method according to claim 19, wherein said features comprise at least two types of parts of an object.
35. (Previously Presented) The method according to claim 34, wherein said categories include pixel patches, curve segments, corners and texture.
36. (Previously Presented) The method according to claim 28, wherein substantially all of the images of said set of images are used to create the model.

37. (Previously Presented) The method according to claim 28, further comprising selecting a sub-set of said set of images for use in creating said model.

38. (Previously Presented) An apparatus for determining the relevance of images retrieved from a database relative to a specified visual object category, the apparatus comprising a processor performing:

identifying one or more predetermined feature types within each image, or a region thereof, of a plurality of images of a training dataset;

classifying said features in terms of descriptive variables defining one or more characteristics of said features and a spatial relationship there between;

estimating model parameters by identifying a set of parameters that best define said descriptive variables from all of said images in said training database, to thereby generate a model comprising said the model parameters;

calculating a likelihood value relating to each image based on its correspondence with said model by comparing said set of images with said model; and

ranking said images in order of said respective likelihood values.

39. (Currently Amended) An apparatus for ranking, according to relevance, images of a set of images retrieved from a database relative to a specified visual object category, the apparatus being arranged and configured to transform visual object category into a model using the method according to claim ~~4~~ 19, compare a set of images identified during said database search with said model and calculate a likelihood

value relating to each image based on its correspondence with said model, and to said images in order of said respective likelihood values.